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Washington, D.C. 20005

Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

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NOVEMBER 1987

SUMMARY

This year's growth in petroleum deliveries, at least when all products are taken as a whole, is turning out to be lower than last year's 3.5 percent increase—an increase that had been spurred in part by that year's large decline in petroleum prices. Including November's 2.6 percent, 423 thousand B/D increase, this year's year-to-date rise for deliveries comes to 2.0 percent, off by more than a third from the 1986 climb—although about double what most analysts had expected.

But for products other than residual fuel oil, whose large fuel-switching-related swings have partially obscured underlying trends, no slowdown has been evident. Last year's growth in deliveries, excluding residual fuel oil, averaged 2.3 percent; for the first eleven months of 1987, the comparable increase has been almost 1 percent more. This year's higher rate represents a continuation of the growth patterns of second-half 1986, when the effects of lower prices were beginning to penetrate petroleum markets.

November's increase in total deliveries was above the average for the year to date largely because of a continuation of the unusually strong distillate deliveries of the past several months. Despite weather warmer than last year, distillate deliveries rose over 6 percent from a year ago, indicating likely continued inventory building by distributors and end users. Meanwhile, gasoline deliveries were closer to consumption trends than they have been in recent previous months, kerosine jet fuel was weak after October's unusually large increase, and deliveries in the "other oils" category remained strong.

Because of record Alaskan output, total U.S. crude oil production in November reached the highest level since May. However, lower 48 production slipped to another recent-year low and left the total domestic decline since early 1986 at about 900 thousand B/D. Imports in November rose from the prior month to 7.1 million B/D, still only slightly short of July's 7.4 million B/D, recent-year record.

Though refinery runs, too, rose from October's levels, crude oil stocks increased another 6 million barrels to the highest month-end level in several years. Distillate production, at 3.0 million B/D, was up 3.3 percent over last November and at the second highest level for that month for the past eight years. This, despite the strength in deliveries, helped to raise primary distillate inventories by 3 million barrels for the month to 127 million barrels. November's distillate stocks were lower than the recent previous November low in 1985 by about 13 million barrels, a quantity less than what has apparently been added to nonprimary storage over the past three months.

PRODUCT SUPPLIED [1]

Gasoline

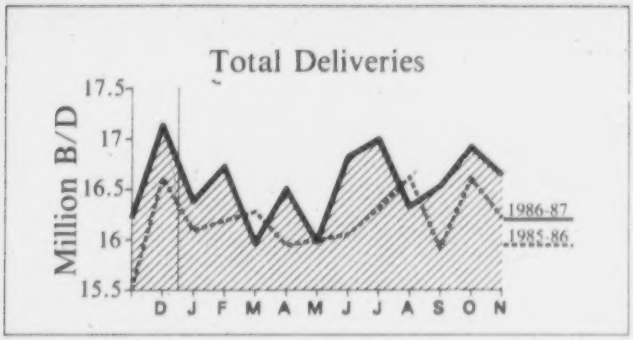
DELIVERIES' RISE CLOSE TO RECENT TRENDS IN USAGE.

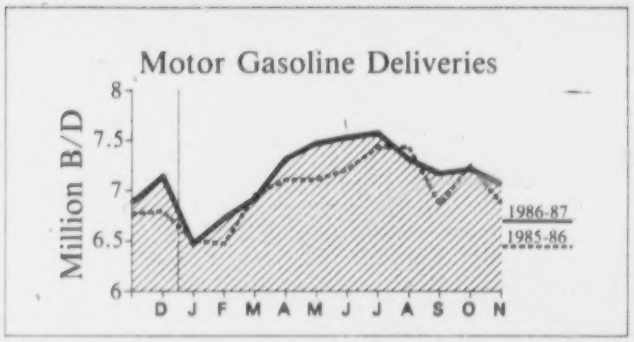
After vacillating around the underlying growth trend for the past several months, gasoline deliveries' 2.7 percent November increase came close to the estimated 2 percent growth rate in consumption. Consumption growth would be larger, were it not for the continued replacement of older vehicles with more fuel-efficient models. Even though the improvement in mileage ratings of new vehicles has been slowing in recent years, the gap between these and the existing fleet is still substantial, so that the turnover of the vehicle fleet is continuing to keep gasoline consumption growing at a rate 1 to 2 percent less than the growth in miles travelled.

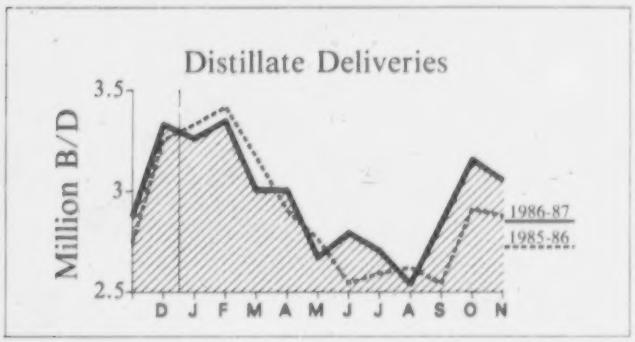
In addition to the growth in household gasoline consumption this year, the non-household sector, which accounts for about one fifth of the total, has also been contributing to this year's increase. Travel in this sector—including wholesale and retail trade, services, business fleets, agriculture, and government uses, to name but a few—is estimated to be growing about in line with the economy as a whole, making its contribution to this year's gasoline demand growth roughly in proportion to its share of consumption.

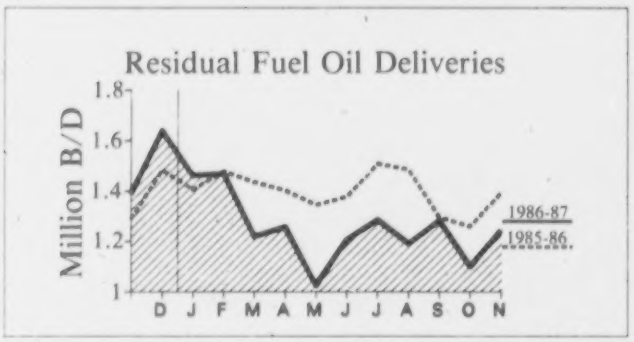
API ESTIMATES

	NOVEMBER		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	16.6	2.6	16.5	2.0
Crude oil production [2]	8.3	(1.6)	8.3	(4.9)
Total imports [3]	7.1	8.2	6.5	5.7
Stocks (million bbl) [5]	1,080	(2.0)	na	na









Distillates

GROWTH AGAIN SURPASSES LIKELY CONSUMPTION.

For the third month in a row, distillate deliveries' year-to-year growth surpassed any likely increase in consumption with a 6.1 percent, 175 thousand B/D rise—despite warmer weather. November averaged 13 percent warmer than a year ago, reducing heating needs by an estimated 90 to 100 thousand B/D versus last November. Continued increases in usage for highway and rail transportation would have added nearly as much back to this year's total—but leaving most of the month's deliveries increase unexplained by indicated consumption patterns.

As with September's and October's increases, the likely conclusion is that, during November, distributors and end-users continued to add to inventories, inventories which are not included in API or Department of Energy data. Over the past three months, deliveries have risen an average of nearly 9 percent, year to year—or 15 to 20 million barrels more than estimated consumption increases during the period.

Mid-November retail heating oil prices averaged around 87 cents per gallon (ex tax), up about 17 cents compared with a year ago—but still about 22 cents below November, 1985 price levels. These price changes reflect roughly similar changes for crude oil costs. This November, refiners' crude oil costs averaged about 14 cents per gallon higher than last year but 18 cents lower than two years ago.

Residual Fuel Oil

DELIVERIES FALL ALMOST 11 PERCENT.

For November, deliveries of residual fuel oil fell 10.6 percent, year to year, about in line with the year-to-date decline. Though, since mid-summer, residual fuel oil prices had drifted downward by $1.50 to $2.00 per barrel while spot natural gas prices had remained relatively stable, this was not enough to significantly alter November's fuel-usage patterns among electric utilities and industrial users with fuel switching capability. In contrast, last year's lower residual fuel oil prices and higher gas prices put the advantage with residual fuel oil.

Though domestic bunker sales have likely remained flat or even declined slightly in view of the availability of attractively-priced fuel outside the U.S., most of the latest month's decline in residual fuel oil deliveries, as has been the case for most of this year, was within the electric utility sector. So far this year, fuel-switching at utilities has accounted for about two-thirds of the deliveries decline, with industrial substitution accounting for much of the rest.

Kerosine Jet Fuel

AFTER OCTOBER'S SURGE, NOVEMBER DELIVERIES SAG.

The weak performance for kerosine jet fuel in November—up a bare 1.4 percent over the year-ago period—follows an unusually strong October gain estimated at 15 percent. The increase for the two months combined, however, comes somewhat closer to the 5 to 6 percent increase in miles flown that has prevailed in recent months.

Air cargo, though accounting for only about a fifth of total revenue ton-miles, has been contributing to air traffic growth as well. Year-to-year growth for this segment of the industry has amounted to over 10 percent so far this year, with international operations being especially strong.

Other Oils

STRONG CHEMICAL DEMAND BOLSTERS DELIVERIES.

Products supplied in the other oils category for November are estimated to be 4,157 thousand B/D, down 2.8 percent from last month's estimate of 4,277 thousand B/D, but 3.9 percent above last year's revised estimate of 4,001 thousand

B/D. The decline from October is due primarily to the change in weather patterns. Nationally, the month's warmer weather is believed to have resulted in lower than average deliveries of propane and kerosine to the residential and commercial markets. However, strong demand for propane and naphtha as the petrochemical feedstocks of choice, bolstered by increased export demand for their product slates as a result of the continuing decline of the dollar, appears to have accounted for much of the year-to-year increase. In particular, propane and naphtha continue to enjoy unusually high ethylene feedstock margins, despite low ethane prices.

On a seasonally-adjusted basis, we estimate that asphalt and road oil deliveries remain strong, sustaining a trend substantially higher than the average seen during the past several months. In addition, refinery gas production recovered slightly from last month to match that of the previous year as a result of increased gasoline production.

SUPPLY [1/]

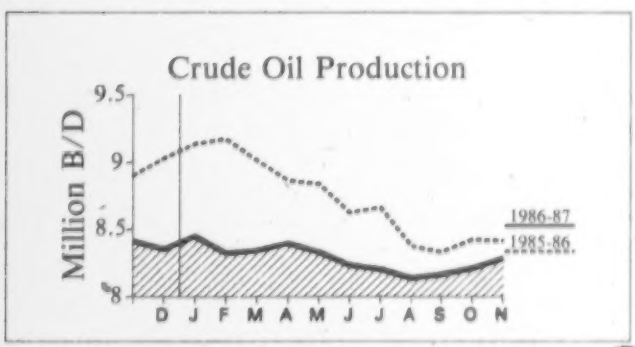
Production

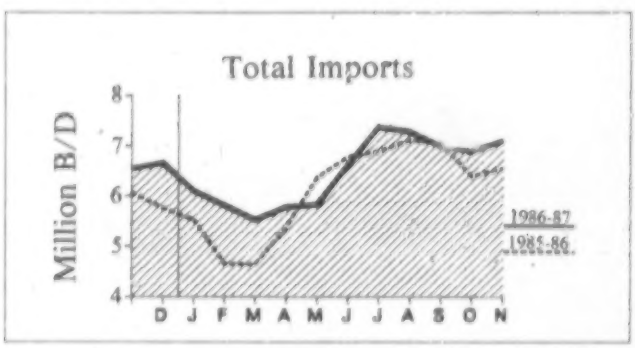
ALASKA, LOWER 48 SET CONTRARY OUTPUT RECORDS. Domestic crude oil production in November reached the highest level since May, but the increase was entirely the result of higher Alaskan output. With the help of projects that have been in the works for several years and have come on stream in the past year or so, including the Lisburne field, additional facilities at Kuparuk, and, more recently, the Endicott field, Alaskan production has been inching upwards. November's production of nearly 2.1 million B/D, amounting to one fourth of total U.S. crude output, set a new record for the state.

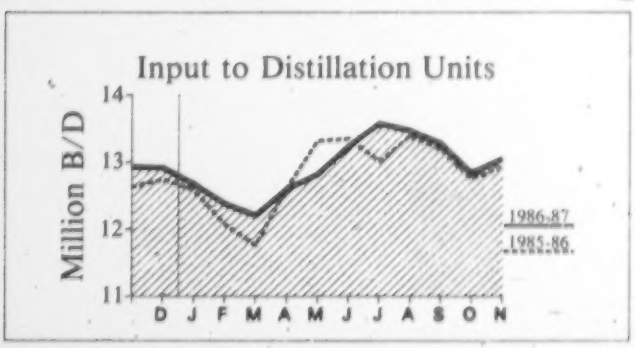
November's increase for Alaska was accompanied by less positive news for the rest of domestic production—the lower 48 again reached a new, recent-year low of about 6.2 million B/D and continued at levels not experienced in more than thirty years. As a result, despite stable Alaskan output, November's crude oil production for the U.S. as a whole was still about 900 thousand B/D lower than in early 1986.

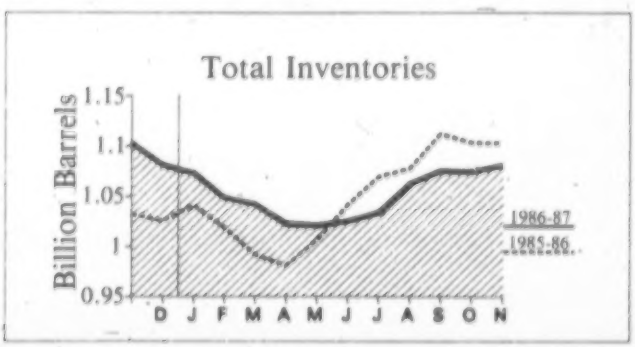
Imports

PRODUCTS STEADY, CRUDE OIL RISES. November's 7.1 million B/D in imports, though up slightly from the prior month, were still short of July's 7.4 million B/D, recent-year record. Imports of gasoline and components jumped 165 thousand B/D from last November to 497 thousand B/D, but imports of distillates dropped 67 thousand B/D to 187 thousand B/D. When combined with declines for residual fuel oil and other products, product imports as a whole were about even with last November. As has been the case for most of this year, increases in imports have been largely in the crude oil category, with November's year-to-year rise of more than one half million B/D being no exception.









Refinery Operations

YIELDS EMPHASIZE DISTILLATE OUTPUT. November's refinery utilization increased by over a percentage point from the prior month, making use of at least part of the rise in crude oil imports. Year to year, input to distillation units was up less than 1 percent from last November, but because of higher distillate yields this year than last, output of that product rose 3.3 percent. In fact, in response to continued strong deliveries during the month, distillate output reached 3.0 million B/D—the second highest November level since 1979. Gasoline production declined 0.8 percent and residual fuel oil production, nearly 6 percent.

Inventories

CRUDE, DISTILLATE INVENTORIES RISE. November's increase in total stocks of 6 million barrels, as has been the case for the past several months, was about normal for this time of year. With refining activity picking up from the prior month, product stocks remained steady after a 13 million barrel decline for October. Despite the increase in crude runs, however, crude oil stocks again rose for the month. November's 6 million barrel increase put crude oil stocks at 357 million barrels, the highest month-end level in several years.

Despite the continued strength in distillate deliveries, high refinery production pushed stocks of that product up by 3 million barrels during the month. At 127 million barrels, November's distillate stocks were lower than the previous recent-year November low of two years ago by 13 million barrels—an amount less than the apparent 15 to 20 million barrel build-up of distributor and end-user inventories during the past three months.

1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 538 million barrels as of November 30, 1987).

ESTIMATED UNITED STATES PETROLEUM BALANCE

(Daily Average in Thousands of 42 Gallon Barrels)

Products Supplied/Supply From Primary Storage	NOVEMBER			YEAR-TO-DATE		
	1987[1]	1986[2]	% Change	1987[2R]	1986[2]	% Change
Products Supplied:						
Total motor gasoline	7,067	6,879	2.7	7,164	7,024	2.0
Finished leaded motor gasoline*	1,550	1,961	(21.0)	1,755	2,201	(20.3)
Finished unleaded motor gasoline*	5,517	4,918	12.2	5,409	4,823	12.2
Naphtha-jet	228	209	9.1	208	202	3.0
Kerosine-jet	1,187	1,171	1.4	1,146	1,093	4.8
Distillate fuel oil	3,052	2,877	6.1	2,940	2,876	2.2
Residual fuel oil	1,243	1,391	(10.6)	1,247	1,398	(10.8)
All other oils[4]	4,157	4,001	3.9	4,072	3,917	4.0
Reclassified[5]	- 290	- 307	(5.5)	- 254	- 308	(17.5)
Total domestic products supplied	16,644	16,221	2.6	16,523	16,202	2.0
Exports	726	821	(11.6)	748	781	(4.2)
Total products supplied	17,370	17,042	1.9	17,271	16,983	1.7
Supply:						
Domestic production:						
Crude oil[6]	8,280	8,412	(1.6)	8,285	8,711	(4.9)
Natural gas liquids	1,602	1,569	2.1	1,597	1,549	3.1
Other supply[7]	604	501	20.6	906	823	10.1
Total domestic supply	10,486	10,482	-	10,788	11,083	(2.7)
Imports:						
Crude oil, total	5,113[10/]	4,570[10/]	11.9	4,589[10/]	4,108[10/]	11.7
Canadian	598	633	(5.5)	613	569	7.7
Other	4,515	3,937	14.7	3,976	3,539	12.3
Products, total	1,973	1,977	(0.2)	1,892	2,023	(6.5)
Residual fuel oil	516	574	(10.1)	547	646	(15.3)
Other	1,457	1,403	3.8	1,345	1,377	(2.3)
Total imports	7,086	6,547	8.2	6,481	6,131	5.7
Total supply	17,572	17,029	3.2	17,269	17,214	0.3
Stock change, all oils	+ 202	- 13	XXXX	- 2	+ 231	XXXX
Refinery Operations						
Input to crude oil distillation units	13,045	12,928	0.9	12,921	12,818	0.8
Operable capacity	15,697	15,440	1.7	15,671	15,460	1.4
Refinery utilization (%)[8]	83.1%	83.7%	(0.7)	82.5%	82.9%	(0.5)
Crude oil runs	12,944	12,831	0.9	12,821	12,710	0.9

Stocks (millions bbls.)	1987		1986[2]	% Change from ...	
	Nov. 30	Oct. 31	Nov. 30	Previous Month	Year Ago
Crude oil [10/]	357.4	351.1	339.1	1.8	5.4
Unfinished oils	101.3	103.3r/	98.5	(1.9)	2.8
Total motor gasoline**	224.8	219.4r/	229.4	2.5	(2.0)
Finished leaded motor gasoline*	52.8	51.7	67.2	2.1	(21.4)
Finished unleaded motor gasoline*	134.6	130.3r/	123.3	3.3	9.2
Naphtha-jet	6.5	6.7	6.9	(3.0)	(5.8)
Kerosine-jet	43.2	42.9	43.2	0.7	-
Distillate fuel oil	126.9	124.1	158.3	2.3	(19.8)
Residual fuel oil	47.0	46.7	46.3	0.6	1.5
All other oils	173.1	179.9r/	180.8	(3.8)	(4.3)
Total all oils	1,080.2	1,074.1r/	1,102.5	0.6	(2.0)

1/ Based on API estimated data converted to a monthly basis.
2/ Source: U.S. Department of Energy.
3/ Source: January-September, U.S. Department of Energy, October-November, API.
4/ Includes crude losses.
5/ Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from total domestic products supplied.
6/ Includes lease condensate.
7/ Includes Unaccounted-for crude oil, Refinery input of other hydrocarbons, and Processing gain.
8/ Represents "Input to crude oil distillation units" as a percent of "Operable capacity."
9/ Derived by interpolating API weekly stocks data.
10/ Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
R/ Revised.
* Included in motor gasoline.
** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.